School Shop

vol. VIII no. 3

NOVEMBER, 1948

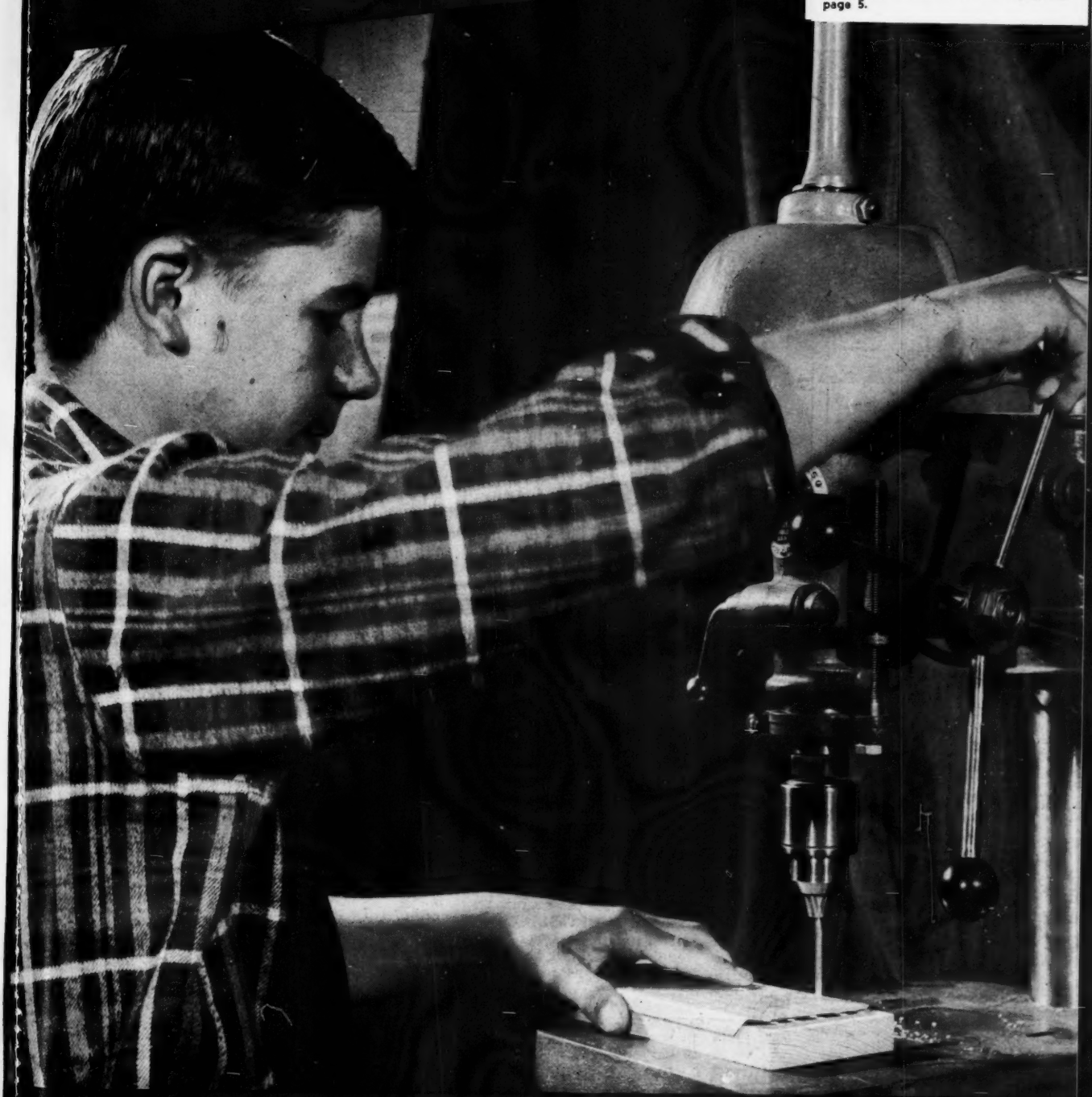
The Role of Practical Arts Education
by Roy G. Fales

How to Care for Filmstrips
by Maurice E. Trusal

Die Cutting for Printshop Variety
by Irwin M. Campbell

Drop the Draw Bar
by Reuben U. Ghainer

On the cover: A youth using a jig to make a cribbage board in a Chicago school as part of his work in practical-arts education. For a full discussion of this topic, see page 5.



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In the Offing . . .

Problems of the administration of programs of industrial education as well as of class organization and procedures will be discussed in the next two issues of SCHOOL SHOP. In addition, many projects will be presented which have been tested in actual teaching. The usual wide variety of features such as School Shop Talk, Kinks, and From Washington will keep you up-to-date on developments in the field and on teaching technics. Watch for them.

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School Shop

FOR INDUSTRIAL EDUCATION TEACHERS

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School Shop TALK

COMMENTS ON ISSUES FACING INDUSTRIAL EDUCATION

This Matter of Time

The hands of the clock reach out menacingly toward the vocational education program. They have a near strangle hold now. Something needs to be done and done soon.

The curriculum makers and the apprentice-training formulators have almost forgotten the student in their concern about Father Time. No young person can be proficient, they say, until he has had a minimum number of clock hours of this or that operation or related information instruction.

The motive is worthy, of course. Students should be well versed in whatever trade subject they are studying. But, and it is a pretty big "but," clock hours do not mean mastery. Sometimes they mean inefficient drudgery and sometimes they mean continued ineptitude.

The student with a keen mind and well developed manual dexterity can learn operations thoroughly at several times the rate of the less well endowed young person. When the top-notch student has to keep playing along at something well past the time when complete mastery has been reached, both society and the student suffer. His opportunity to join the productive forces of industry is unduly postponed and his interest in the field can be easily dulled.

The slow learner faces an equally unsatisfactory situation. He reaches mastery, if at all, well past the time when the majority of the group have achieved it. They move along while he stumbles and falters. He may persevere and finish his training or he may give up entirely when he would ultimately have made a good worker in his chosen field.

Curriculums and apprentice programs based on clock hours are intended to insure mastery. This is well and good. In numerous instances, however, they do an injustice to the learner and to society because they are based on that great bane of education, "the average student."

Some go faster and some go slower. Achievement can be measured and is being measured by various testing devices. The problem is not insurmountable and, in fact, is being surmounted in a few notable instances where trade entry is based on measured ability and skills, rather than on hours of instruction or work or class attendance.

It is time that mastery and not the clock determined competence.

Project Design

Our batting average is pretty low. An industrial designer, trained in the elements of good design and with a keen esthetic awareness, would give and, as a matter of fact, has given industrial-arts project work a low rating.

The trouble is that he is right a fair share of the time. There are exceptions, of course, but by and large there is room for great improvement in project design.

One objective of industrial-arts work is the creation of an appreciation of good design on the part of the student. With project material that rates poor in this regard, the learning of the student is at an obviously low level.

For many years, industry itself was lax in this fundamental and products on the market were often far from pleasing from an esthetic and utilitarian standpoint. In more recent years, this picture has changed for the better, although there is still room for plenty of improvement.

Industrial-arts instruction has the responsibility for interpreting industry to students. When project work does not measure up to good industrial design standards, we are lax in meeting our responsibility.

Improvement can be achieved by various methods. There are a number of good books on design which should be part of every shop teacher's library. Correlation can be worked out with the art department of the school. In many new school buildings, the art department and the shops have been placed in close physical proximity which facilitates such interchange.

Another method for securing a good foundation is to take course work at institutions offering industrial design. Many universities, colleges, and institutes are doing outstanding work in this field. Craftsmen of superior ability and artists with fine feeling for the application of esthetic principles are doing remarkable work at these institutions.

Critical selfappraisal is another method of improving design.

Industrial-arts teachers have a real responsibility in this area.

Your Editor

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PICTURED HERE are some prize winners in the annual Aluminum Projects Competition for 1947-48. Note the original designs, the professional-like workmanship of these prize-winning projects. You teachers deserve much credit for your individual help and inspiration that enabled 54 students to walk off with cash prizes in this contest conducted by Scholastic Magazines, sponsored by ALCOA.

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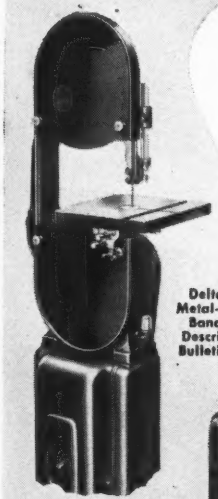

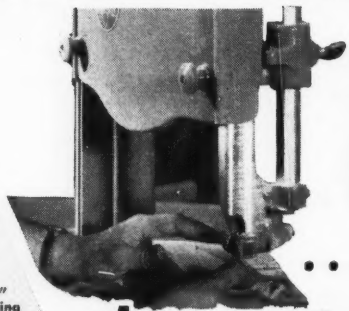

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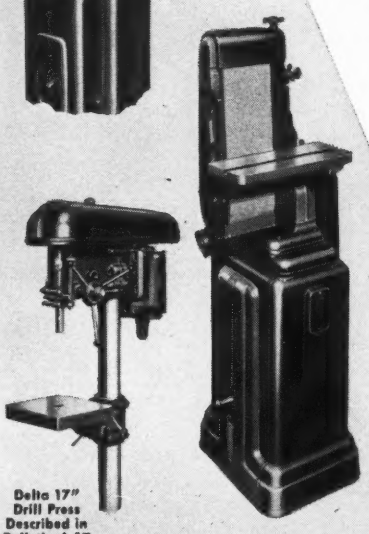

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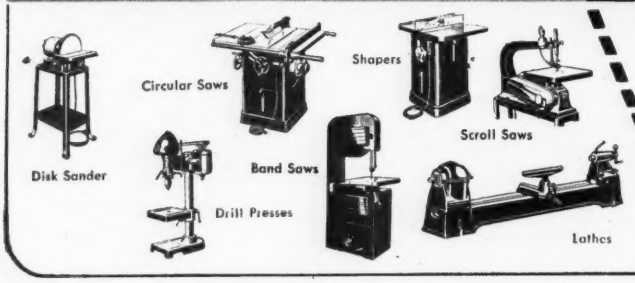

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The Role of

Practical Arts Education

By Roy G. Fales

The Commission on Life Adjustment Education for Youth has been studying the secondary-school curriculum to see what it is that accounts for the lack of interest of many students who are neither in the college-preparatory nor vocational-education groups and who leave school at the earliest possible moment. Part of the answer is in the practical-arts program which Roy G. Fales, State Supervisor of Industrial Arts for New York, describes here.

What Is Practical Arts?

PRACTICAL arts in the high-school curriculum is concerned with the physical work of the world which is performed to some extent by almost all persons. It deals with the work of the home, industry, agriculture, business, and arts. It is represented in the school by easels, workbenches, tools, typewriters, accounts, business correspondence, musical instruments, flowers, pets, furniture, automobiles, radio, books, dishes, clothing, the preparation and preservation of foods, and the work of the home. These types of school work are usually found in shops, home-economics rooms, fine-arts rooms, studios, commercial rooms, and agriculture laboratories.

Boys and girls should be required to sample all types of practical-arts work. It is desirable for them to participate in the making, arranging, and using of the countless number of articles around them as a means of understanding and also for the satisfaction which arises from such activity. The types of creative experience which should be available for "tryout," discovery, and consumer education are as follows:

1. **Commercial arts.**—Young people need to learn speed writing in order that they may take telephone notes and other verbal messages quickly. They also need to be able to type letters. These, together with the simple business forms and procedures which most people encounter, should be a part of the required commercial-arts offering.

2. **Esthetic work.**—Large numbers of young people enjoy reproducing music, drawing, painting, and otherwise copying or creating a sound, picture, or figure, or designing an article which is a product of their own imagination. Youth must find the joy and satisfaction in these types of work which result from achievement.

3. **Home and family living.**—The work of the home, including the interesting parts of cooking, meal preparation, sewing, home decoration, and some of the leisure-time domestic arts together with the study and practice of group and family living, care of the sick and children, is essential. Experience in arranging, meal planning and preparation, needlework, interior decoration and other similar arts might well be emphasized in the practical-arts work, because the pupils concerned respond more quickly to activity than they do to book work.

4. **Industrial work.** — Industry and its products form the basis of our American economy. All of the major and distinctive industrial types of work which can be adapted to school usage are needed by youth.

5. **Nature work.**—Most pupils are interested in animal, plant, marine, and insect life. They should be provided with an opportunity to care for, breed, and raise pets. Elementary gardening with flowers, grass, vegetables, shrubs, and trees should be possible. Particular attention to the landscaping needs of the home owner and his children is desirable.

Objectives

The objectives of instruction in practical arts may be stated as follows: To offer all boys and girls an opportunity:

1. To consider through actual work and study the consumer values of products which the pupils purchase and those found in their home and community environment.

2. To learn the technic of planning a unit of work in the study of an occupation.

3. To experience selfexpression in certain arts and crafts as leisure-time activities.

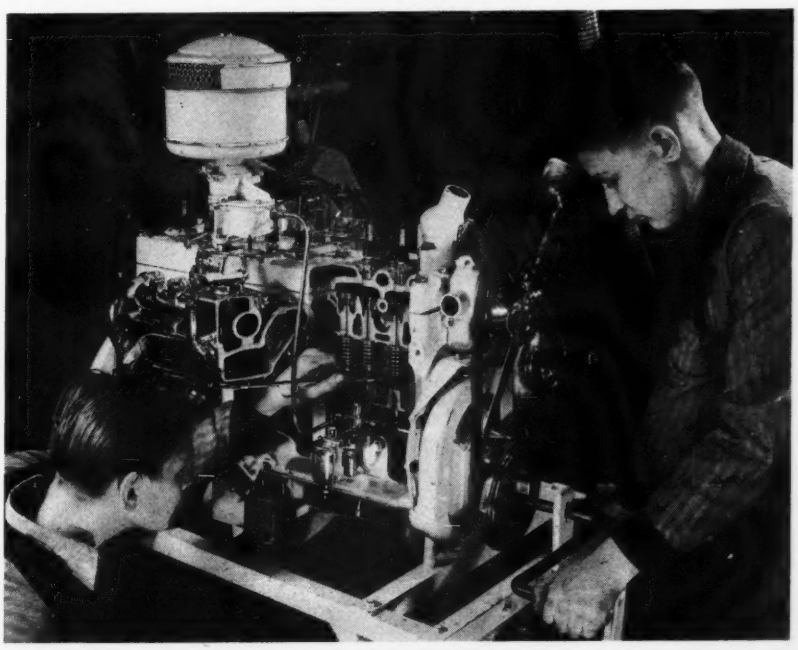
4. To perform as many different kinds of industrial, farm, commercial, home, and esthetic types of work as possible for exploratory values.

5. To construct, assemble, or grow as many different kinds of articles or products as time, ability, and interest will permit.

6. To study the problems, processes, procedures, jobs, working conditions, and workers of the five different major types of occupational activity adaptable to school experience.

7. To locate permanent and abiding

Youths in a Detroit, Michigan, high school checking valve timing on a cut-section engine. Such activity has definite exploratory value.



Student at the potter's wheel at West High School, Denver, Colorado. Development of self-expression is an important objective of practical-arts education.

pupil interests in some specific occupational activity.

Why Practical Arts Is Necessary

Today only a very small amount of the nation's productive capacity is found in the home. The vast quantity of industrial and agricultural products which are available to the citizens of America has been made possible only through the development of factory mass production. This very rapid change, within the last hundred years, from the time in which production was carried on in the home to the present day in which little production work is done in the home has left our children and youth without adequate constructive and purposeful activities.

The work of modern industry is largely hidden from the young people of our country; they are thus prevented from even observing how the simplest and most necessary things in our environment are constructed, grown, or how the business of distribution is conducted. To be sure, some factories open their doors to school pupils, but a larger number fail to offer the opportunity for young people to observe how the products of our modern world are produced. The city children seldom observe the work of the farm. The boy in the mathematics class knows little of modern accounting systems or business procedures. School pupils largely miss the stimulation and fascination of fine art and music except as it comes to them over the radio or in concert halls.

It is the nature of young people to crave and seek activity. Social-economic changes have removed productive activity from the lives of youth and the schools must replace it.

The Pupil Attitude

Practical-arts work in the high school represents the type of work which young people dream about doing and actually do after they leave school. They drop out of school for lack of a challenge sufficiently strong to hold them. They go to the home, factory, store, office, farm, or other place of work. Natural desires cause a large percentage of them to crave gainful employment. When beginning work, they handle tools, wash dishes, carry papers from office to office, pull weeds, chop wood, feed a machine, or do other simple work. These jobs interest them and ultimately open up avenues to increased earning power which justifies their prolonged attention and effort. This is life; this is the satisfaction which keeps a nation healthy and happy.

Who Needs Practical Arts Most?

The Prosser Resolution points out that a large majority of secondary-school pupils drop out of school for types of work which are more interesting to them and which hold more attraction for them than do the subjects normally offered in our present high school. This is because the modern high school is largely geared to prepare young people for college. Inadequate time and insufficient facilities have been provided for the practical arts.

This large group of children, both boys and girls, leaves school for economic reasons or for lack of interest in the college-preparatory curriculum. They leave school for the work of the world. It is evident, therefore, that school administrators who wish to meet the needs of modern youth who are not interested in college-preparatory work or the skilled occupations must increase the curriculum offerings in practical-arts areas.

Relationship to Other School Subjects

Practical-arts work, representing as it does a large number of the gainful occupations in this country, draws very heavily on many of the bookwork subjects. A study of industry—together with shopwork, which is usually called industrial arts—is not complete without a knowledge of the fundamentals of mathematics, an understanding of the esthetic design of any job concerned, a knowledge of the basic science underlying the production or the materials and the operation of a finished article. These four types of work are so closely related that it becomes impossible to separate them either in the school shop or industry. Science, for example, is a "must" in horticulture, in care and breeding of pets, and in rotation of crops. The selection of furniture and mechanical devices for use in the home is dependent on a knowledge of art, scientific usage, and the economics of purchasing. Business procedures are a part of industry, family budgeting, the financing of the farm and other types of work. The esthetic subjects are essential in all types of practical work. The practical arts overlap the work of the other school subjects so largely that they often vitalize them and lend meaning and reality which are essential to successful study for many pupils.

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Practical Arts and Vocational Education

Both practical arts and vocational education are concerned with the same kind of work. In both types of work pupils may use the same products, materials, and tools. They may do exactly the same thing. Yet there is a difference just as there is a difference between arithmetic and banking. The one is concerned with elementary materials and procedures and the other involves the same, plus a more or less complex situation. The former is the beginner or learner stage, and the latter is the occupational procedure.

[EDITOR'S NOTE: The foregoing article is reprinted from the statement, *Life Adjustment Education for Every Youth*, issued by the U. S. Office of Education, Washington, D. C., 1948, pages 115-17.]

Two students in the industrial-arts aviation class of E. J. Neary at Waukegan, Illinois, Township High School. Consumer values are emphasized in the course.

Photo by E. C. Meslow

How to Care for Filmstrips

By Maurice E. Trusal

To make full use of filmstrips and visual aids the shop teacher should catalog and store them carefully. The author uses the system described below at the Technical Institute in Williamsport, Pa. He is Director, Division of Audio-Visual Materials, Williamsport Schools.

GOOD instructional filmstrips, generally considered essential teaching aids by the progressive shop teacher, should be handled, cataloged, and stowed as carefully as other shop tools. The shop teacher who accumulates strips in his desk drawer cannot hope to get the maximum benefit from them.

The following system of cataloging and stowage is suggested primarily for the use of small shops where all teaching aids are handled by the individual shop instructor. However, the system will work well in centralized visual aids libraries of five or six hundred filmstrips.

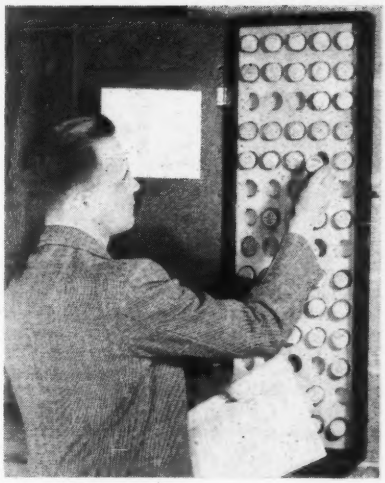
The filmstrip cabinet shown in the photograph and the drawing can be easily constructed by advanced students in the industrial-arts or vocational woodworking shop. The one shown was developed for the program in visual aids at the Technical Institute. It has many desirable features from the standpoint of shop efficiency. Titles and classification numbers are in full view; strips are easily removed and replaced; the wall design saves floor space; and a locking hasp makes it possible to secure the case with a small padlock. The cabinet is designed to accommodate 70 filmstrips and is easily constructed and mounted.

A simple number classification has been found to be the best for filmstrips. It is less cumbersome than the Dewey decimal system and provides quick identification of titles. Categories into which strips are divided can be given series classification—for example, all woodworking filmstrips could be given numbers in the 100 series, and so on.

Proper labeling of the containers is important. Both the title of the strip and the classification should be visible. A classification label can be placed next to the title on the container. Use a 1" x ¼" strip of adhesive tape, print the number in ink, and cover with transparent cellulose tape.

Bill of Material

No.	Material	Size & Description	Quan.
1	white pine	¾ x 1⅜ x 37½	2
2	white pine	¾ x 1⅜ x 12⅞	2
3	fiber board	3/16 x 12⅞ x 37½	2
4	corrugated fastener	⅜ x 1⅛	4
5	white pine	¾ x 1¾ x 36	2
6	white pine	¾ x 1¾ x 12⅞	2
7	white pine	¾ x 11⅜ x 36	1
8	hinge	1½ x 1 1/32 brass butt fast joint	2
9	hasp	¾ x 1¾ brass	1
10	screw eye	No. 110	2
11	card holder	⅞ x 3⅜ brass	1

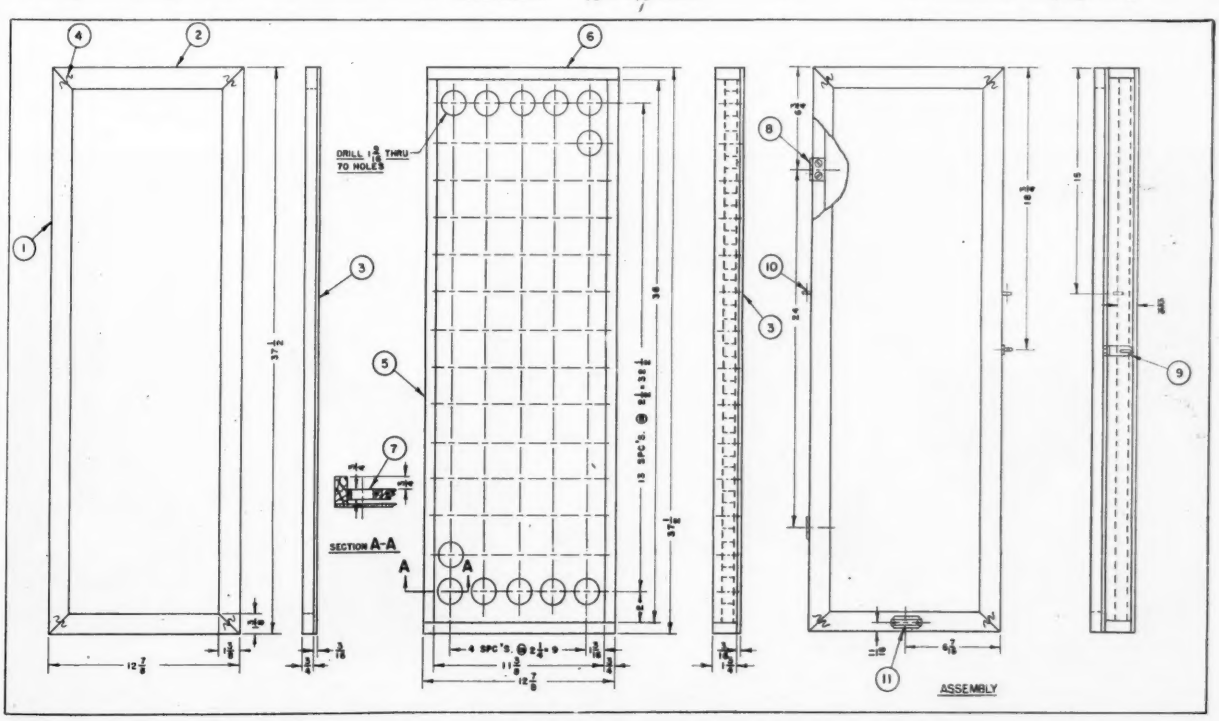


The completed filmstrip cabinet. Labels are clearly marked and containers are easily reached by the instructor.

A good method for maintaining inventory control on visual aids is to use a card catalog. Use 3 x 5 cards for this (as illustrated). Purchase data can also be kept on these cards, thus providing references for future orders, replacements, etc.

WOODWORKING S-101
"Use and Care of the Block Plane"
65 frames
Purchased: September 1945
Source: Visual Supply Co.
Cost: $2.00

(*Continued on page* 28)



Die Cutting Adds Printshop Variety

By Irwin M. Campbell

Although not now in common use, the printshop technic of die cutting has a number of teaching possibilities. The work attracts attention to the shop and gives variety to shop practice. Irwin M. Campbell teaches printing at Central Michigan College of Education, Mount Pleasant.

ONE attractive printing shop technic that receives far too little attention these days is that of die cutting. Simple to make, and inexpensive to use, die cuts can be very effective on special print jobs which require outlines, designs, or other untypical treatment. It is a good way to advertise the school printing shop facilities, for when odd and attractive jobs are distributed attention is drawn to the printer and to his method.

The school print shop which decides to go in for die cutting will find that the additional material needs are few. The most important item, the cutting rule, is easily obtainable at any branch of the American Type Founders. Rules are available in three grades of hardness. *Soft* is used for sharp turns while *medium* and *hard* are increasingly adaptable to larger arcs. The last two steels are also more hardy and will stand more abuse than the soft grade.

Cutting rules should be held in place with ¾" plywood. The plywood adds strength to the form and prevents splitting. When tracing the pattern, place it face down on the plywood. A light-weight index or bristol can be used for the pattern. When the pattern is face down on the plywood, the pressman is able to watch the printing operation without turning over each sheet in order to check the register.

Cut the pattern with a jig saw. The blade should be guided carefully along the pencil line on the pattern, tending to the inside. Use a hammer and dull chisel or other adaptable instrument to shape the rule around the pattern. Pressure will hold the form and the rule together when the fitting operation is completed and the unit has been locked in a chase preparatory to printing.

Before printing begins, cork should be placed at several points along the rule in such a manner that it stands 1/16" above the rule. When glued in place, the cork serves to kick out each piece of material as it is cut. Several sheets at once or a small booklet may be fed into the press.

Place the form in the center of the press bed after removing the rollers. A light-weight piece of tin can be placed beneath double tympan paper to protect the platen. Add pressure as needed.

The school printshop can attract a great deal of attention to itself with these attractively unique jobs. They provide variety in shop practice and offer the teacher an opportunity to teach a technic that too often is neglected in the printing shop. Ingenuity in design of outlines and facility with the simple tools needed for this type of job will show up in the student whose interest is aroused by die cutting in the printshop.

Sample of die cut printing done at the Central Michigan College print shop. Great variety in shape and size is possible with this method.

IT ISN'T TOO LATE

THERE is still time to send in your request for the free and low cost teaching aids listed in the Shop Teachers Service on pages 15-19 in the October SCHOOL SHOP. Forward your coupons to SCHOOL SHOP, 330 S. State St., Ann Arbor, Mich.

The material needs are few for die cutting. Note arrangement of cork around outline of form so work will pop out.

Holder for Taps, Drills, and Dies Saves Shop Time and Patience

By George J. Allen

This convenient method for grouping tap and die sets together will save wear and tear on the tool foreman. George J. Allen is an instructor in the Sewanhaka High School, Floral Park, New York.

TESTED INSTRUCTIONAL PROJECT

THE distribution and storage of taps, tap drills, and dies in the school shop can be a headache to the shop teacher unless he has a system. Drills used for tap-size holes and body-size holes frequently employ the number, letter, and fractional size of drills. This means a tool keeper or student must, if he is using an open tool panel, make several drill selections to satisfy one tap size. The problem also comes up of locating a misplaced drill, if someone has been careless in returning it to the drill stand. In this case it is necessary to spend unnecessary time in sorting or re-racking.

In order to avoid the loss of time and patience involved in these unnecessary tasks the teacher should bring together in one unit all the items needed to make up a tap-and-die set for each size. A special holder can be made to hold the items. Thus, in one unit could be placed:

1 set of taps (taper, plug, and bottoming).

1 tap drill of correct size.

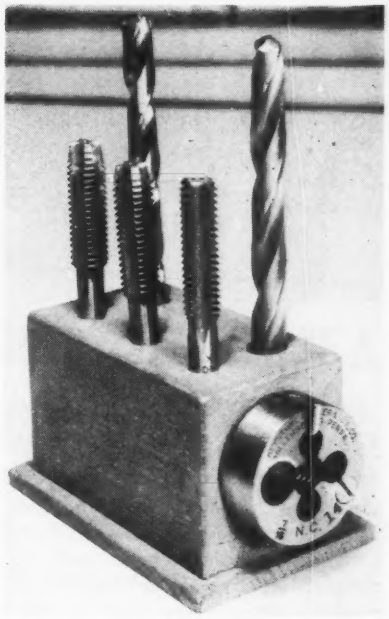
1 body drill of correct size.

1 round adjustable die to match tap size.

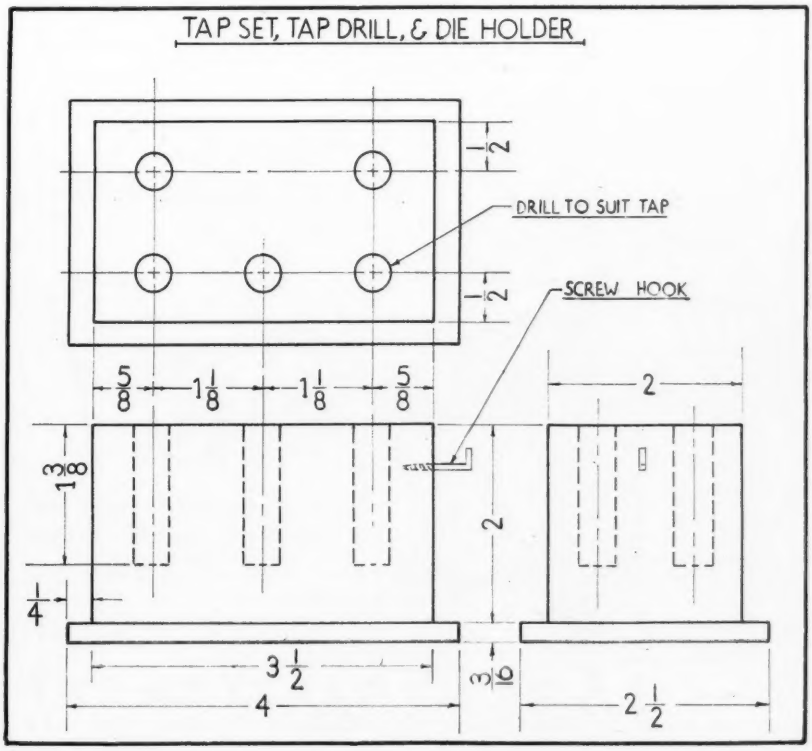
1 chart attached to holder. This should list the tap size, tap-drill size, and body-drill size to aid in checking the set.

Holders can be made for all tap-and-die sets from 2-64 to 5/8-11 with the aid of the drawings. The individual shop requirements will differ, of course, so that the dimensions given here merely serve as suggestions.

Construction of the holder is simple. Use 2" x 2" stock, S4S, cutting correct lengths on the circular saw. The wood selected for holder and base was birch but most medium-hard woods are suitable for the job. Cut the base piece to size and fasten to the holder with small nails and waterproof glue. The layout lines for taps and drills are made as indicated on the diagram. Holes for one complete set of taps and drills should be drilled and checked in order to insure a good fit in the block. The ease of removal and replacement of items should be of prime importance in making the holder.



Holder containing all the necessary items to drill, tap, and thread a nut and bolt to 7/16 N. C.



The round die can be attached to the holder by means of a screw hook. The position of the screw hook on the end of the holder depends on the diameter of the die. The chart should be affixed to the opposite end of the holder. This chart has the functions of preventing mix-ups in the holders and of assisting the tool foreman in seeing to it that the entire unit is returned to the rack in proper condition. Print the chart in India ink and cover it with several coats of water white metal lacquer or clear varnish to promote cleanliness and ease of reading.

Assume that a student desired to drill, tap, and thread a nut and bolt to 7/16 N.C.-14 size. With holders available for all sizes of taps and dies in the shop it would be possible for the student to pick up in one unit all the cutting tools necessary for the thread-cutting job.

Time spent in searching for missing taps and dies and in sorting and re-racking is time that could be given to teaching and to shop operation. The construction of these simple holders will be a boon to both teachers and students.

If desired, the holders can be made as project material in the woodworking shop. Students will take pride in turning out something practical for use in their own school's shop.

A Handy File Rack

By R. E. Buxton & G. M. Purvis
Ventura, Calif., Junior High School

DURING the transfer of tools from dingy, poorly placed toolrooms in our metalshops to door-type tool panels placed adjacent to the work areas, the problem of mounting files arose. We needed a file rack that would be easy to use and positive in support whether the doors were open or closed.

The new type of rack shown in the photographs proved to be very satisfactory and is easily made by any student who can hacksaw and file to a line and make an edge weld.

It is made from ⅛" x 2" angle iron with ¼" slots spaced 1½" on centers.

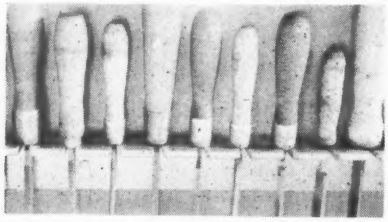
Rack with bar welded along top before notches were sawed out and the edges filed.

The length is determined by the space available.

To prevent the files from slipping out of the slots, a ⅛" x ⅜" bar was welded along the top of the rack. Notches were sawed in the bar to open the slots. A little filing to trim off burrs and round out the openings made it ready for installation except that holes were drilled and counter-sunk in the back of the rack for mounting.

The photographs show the files as they are mounted after class. Although we use various sizes of both friction and screw-on type handles, we have no trouble with files coming loose and falling out. They are easily accessible and can be quickly checked at the end of each period.

Close-up of files in rack.
Photos by Macomber



Easily Cleaned Welding Table

By Glenn E. Waters

Here is a piece of shop equipment that can be made as a project in welding and will give students a feeling of contributing to the improvement of the shop facilities. Glenn E. Waters teaches at the Midland, Michigan, High School.

TESTED INSTRUCTIONAL PROJECT

MANY school shops have arc-welding tables with tops made from boiler plate. This type of construction sooner or later creates a problem for the welding teacher as beginning students are often careless about depositing beads and slag on the top of the table. This makes the top rough and often warps the surface. The table shown here overcomes this difficulty through the use of fire brick for the top surface.

The table is an excellent project for the welding shop and its completion gives students a sense of achievement in contributing something to the equipment of their shop.

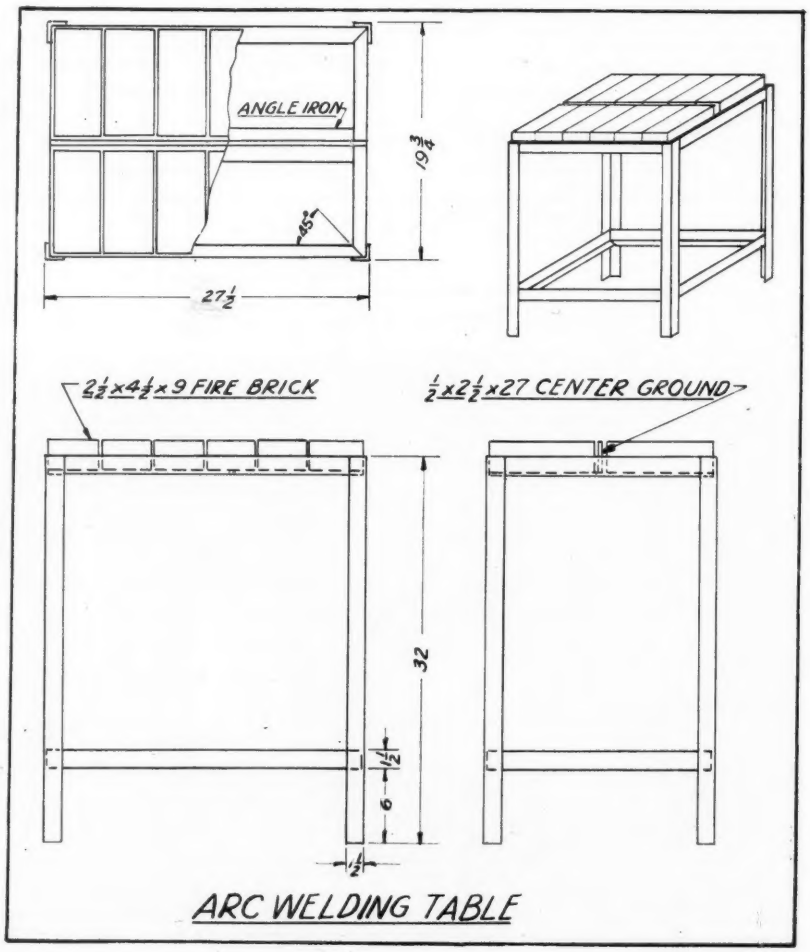
Surplus slag can easily be removed from the fire brick with a wire brush so that the table can always be kept neat and clean.

The fire brick is supported on the table top by the angle iron as shown in the drawing. A ground runs through the center of the table and is made of ½" x 2½" x 27" strap iron. The ground should only be lightly tacked into place so that it may be removed occasionally to get rid of slag and metal deposits. It must be tacked securely enough so that all contacts are grounded to the table, of course.

Care must be exercised that the ground plate is placed even with the surface of the fire brick for making good contact while welding.

This style of table has been used in our metal shop for some time and has proved very successful, both as a piece of equipment and as a project for welding students.

Shop operation is improved by this durable piece of equipment and the student who produces it feels that he has added substantially to shop efficiency.



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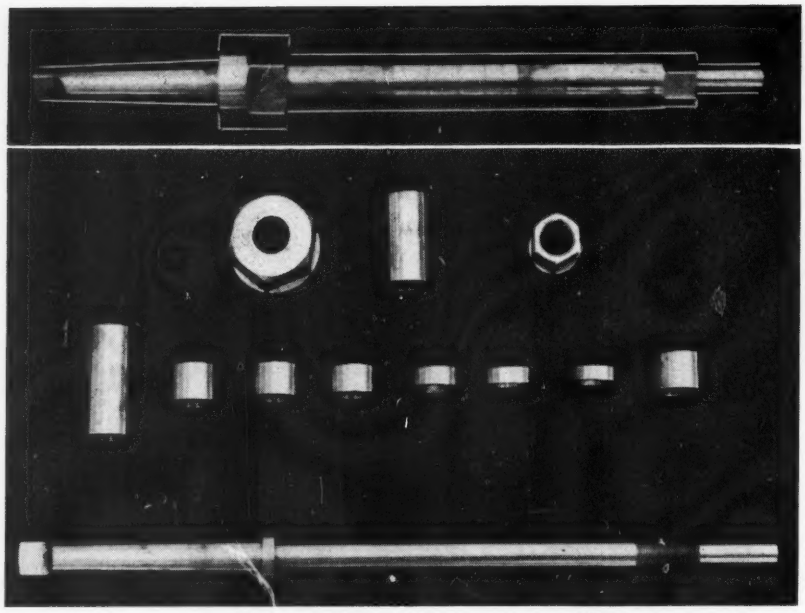
Drop the Draw Bar and Use This Arbor

By Reuben U. Ghainer

This project will help to modernize old equipment in the machine shop and at the same time the student can learn many operations. Reuben U. Ghainer teaches at the Lincoln High School, Van Dyke, Michigan.



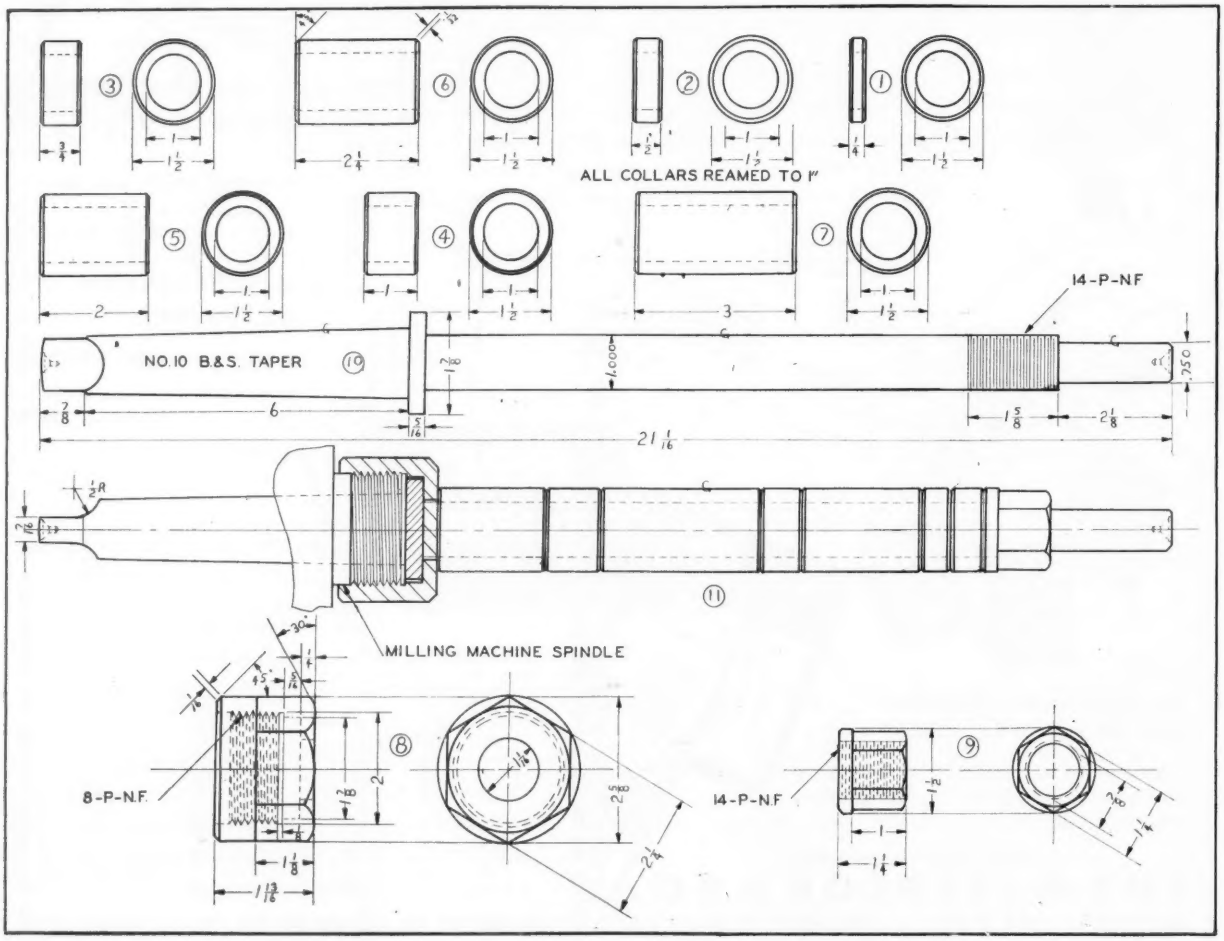
Top—View of assembled arbor and draw nut.
Bottom—Arbor with bushings and draw nut.

TESTED INSTRUCTIONAL PROJECT

MACHINE-SHOP teachers with some of the older machines in their shops will find this accessory a welcome addition to their equipment. Moreover, it can be used as a project for students as it has many teaching potentialities.

The draw-nut feature of this project makes it possible to hold a milling-machine arbor in the milling-machine spindle securely without the use of a draw bar. The draw nut will also loosen or tighten the arbor in the spindle with ease and without damage to the arbor or the spindle.

When a draw bar is used, the arbor is held securely, of course, but the difficulty comes when you attempt to remove the arbor. A rod is commonly used to drive out the arbor. If the arbor sticks, a hammer may be used to strike the bar. This is not good practice because in time the end of the arbor will be swedged out so that it will not fit properly and, in



addition, the threads will be damaged.

The arbor and draw nut pictured here were made for an old-type B&S milling machine. It can be adapted, of course, to fit other machines with threaded-nose spindles. The size of the arbor and of the draw nut will vary with the size of the arbor and the spindle for which it will be used.

The arbor is made in the usual way, except that a shoulder is machined on it at the large end of the taper. This shoulder provides a bearing for the draw nut to press the arbor securely in the spindle. Notice that the collars on the arbor press against the draw nut instead of against a shoulder on the arbor.

To remove the arbor from the spindle, loosen the nut that tightens the collars at the end of the arbor. Next loosen the draw nut and back off. The pressure of the draw nut against the bushings will draw the arbor out of the spindle with surprising ease.

This arbor and draw nut has considerable value as a project because of the large number of operations involved. The complete arbor illustrated was machined by a second-semester student in three weeks during his regular class period.

The project does not lend itself to the production plan of operation as but one is needed in a shop. It can be constructed by an advanced student as a project or divided among several students according to the ability of each. If a student can complete the entire project satisfactorily, it is a good test of his ability.

The operations involved on each of the parts are as follows:

Arbor.—(1) Cut off stock in power saw. (2) Face. (3) Center. (4) Rough straight turn to shoulder. (5) Rough taper turn to shoulder. (6) Finish straight turning. (7) Finish taper turning. (8) Chamfer corners. (9) Mill tang. (10) Straight grind O. D. (11) Taper grind O. D. (12) Thread.

Draw Nut.—(1) Cut off stock in power hacksaw. (2) True work in chuck. (3) Face. (4) Drill. (5) Bore to shoulder. (6) Counterbore. (7) Undercut. (8) Internal face. (9) Chamber one corner to 45° with compound. (10) Chamfer one corner to 30° with compound. (11) Internal thread. (12) Mill hexagon. (13) Burr all corners.

Arbor Nut.—(1) Cut off stock on power saw. (2) True work in chuck. (3) Face. (4) Center. (5) Drill. (6) Bore. (7) Internal thread with tap in lathe. (8) Straight turn on thread arbor. (9) Mill hexagon. (10) Chamfer corners.

Collars.—The bushings may be machined from a bar of stock or each bushing may be cut off with the power saw. (1) True up stock in lathe. (2) Face. (3) Center drill. (4) Drill. (5) Bore to size, allowing for grinding. (6) Turn O. D. (7) Chamfer corners. (8) Cut off bushing with parting tool. (9) Face to length, allowing for grinding on ends. (10) Cut chamfer on corners. (11) Grind I. D. (12) Assemble bushings on the mandrel and grind O. D.

← Parts for Milling Machine Arbor and Draw Nut

1—1/4" collar
2—1/2" collar
3—3/4" collar
4—1" collar
5—2" collar
6—2 1/4" collar
7—3" collar
8—draw nut
9—nut
10—mandrel
11—assembly

AMERICAN EDUCATION WEEK
November 7-13

The overall emphasis of American Education Week this year is on the role of education in *Strengthening the Foundations of Freedom*. The daily topics gear into this theme by pointing up critical areas in which speedy advances must be made if schools and colleges are to measure up to their tasks.

This 28th observance of American Education Week is sponsored by three national organizations: the National Education Association, American Legion, National Congress of Parents and Teachers; and the U. S. Office of Education.

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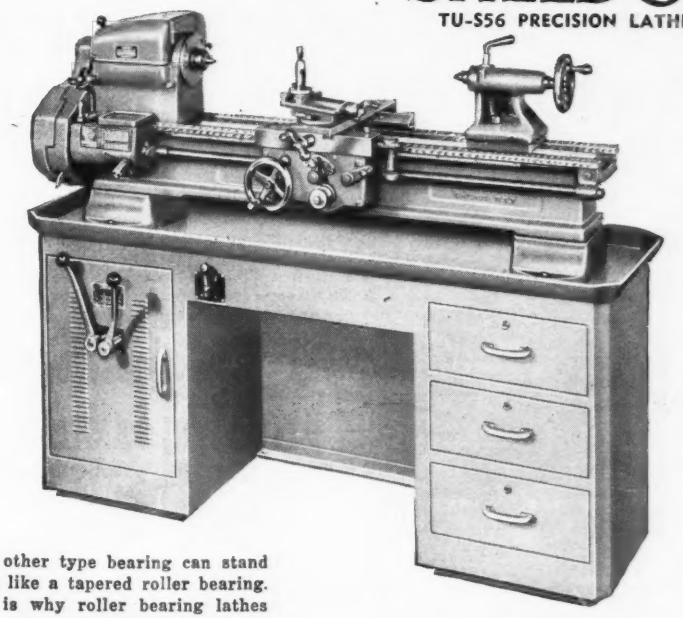
TU-S56 PRECISION LATHES



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NEWS

What's Doing in the Field of INDUSTRIAL EDUCATION

Training for Printers

PERSONS interested in entering the graphic arts industries may now attend the Graphic Arts Technical School, a school which challenges the idea that rigid training schedules can be set up for trainees without regard to individual differences among them. Opened last month in Minneapolis, Minn., the institution is sponsored by Graphic Arts Industry, Inc., a trade group representing more than 900 firms in six mid-Western states. Admission is open to all those who qualify—no barriers with regard to residence, age, sex, race, creed, experience, or schooling having been set up.

According to a statement by R. Randolph Karch, director of education for the sponsoring group, issued in connection with the opening of the new school, the printing industry is now made up of workers who are specialists in a scientific field. Inflexible school courses militate against the most efficient training of these workers, he said. Provision must be made for obvious individual capacities to absorb and assimilate instruction and it must be recognized that differences based on schooling, aptitudes, interests, and experience exist, Karch added.

Education and Industry Meet

COOPERATION between leaders in industrial education and industry took the form this summer of a week's conference at the Fitchburg, Mass., Teachers College. A total of 584 trade and vocational school directors and teachers from the state met with representatives of 30 companies who passed on information concerning new industrial developments.

Subjects covered at the conference included cemented carbides, powdered metallurgy, various aspects of wood technology, numerous phases of welding, maintenance and repair of electric motors, industrial lighting, painting and finishing, and many others. Teachers of trades were conducted through various plants in the area.

Chicago Field Trip

A FIELD trip to Chicago was a feature of the class in Modern Industries at Ball State Teachers College, Muncie, Ind., in the last summer session. In order to contact, first hand, as much basic industrial material as possible, the group visited the Scholastic Industrial Arts Exhibit, the Chicago Museum of Science and Industry, and the transportation exhibition then being held in the Illinois city. Fred Schmidt, Jr., was the instructor who conducted the trip.

Industrial-Arts Fraternity

INDUSTRIAL-ARTS majors at the University of Minnesota, Duluth, Minn., branch, have recently organized Sigma Iota Epsilon, a professional fraternity to promote industrial-arts objectives. George Wallin was elected president of the group.

Teacher-Trainer Convention

THE National Association of Industrial Teacher Trainers will meet in Milwaukee, Wisc., on November 28, 29, and 30, according to G. Harold Silvius, chairman of the department of industrial education, Wayne University, Detroit, Mich., president of the group.

Connecticut Group

"EDUCATION for Living in an Industrial Democracy" was the theme of the annual fall meeting of the Connecticut Industrial Arts Association in Hartford, October 29. Featured speaker was John R. Ludington, specialist in industrial arts, division of secondary education, U. S. Office of Education, and a member of the editorial advisory board of SCHOOL SHOP.

TODAY'S TOOLS FOR TOMORROW'S HANDICRAFTERS

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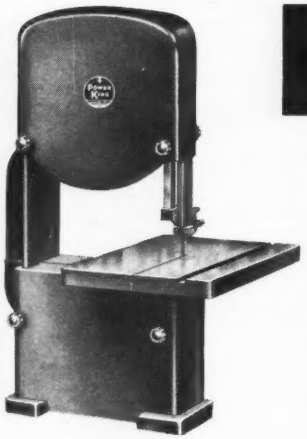

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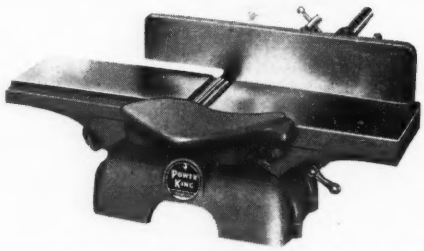

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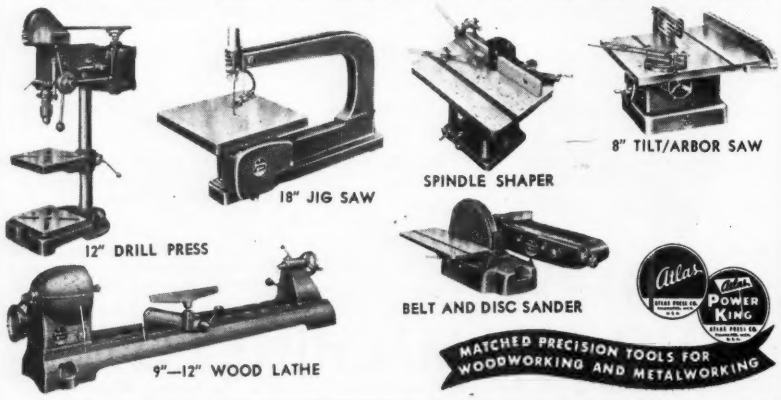
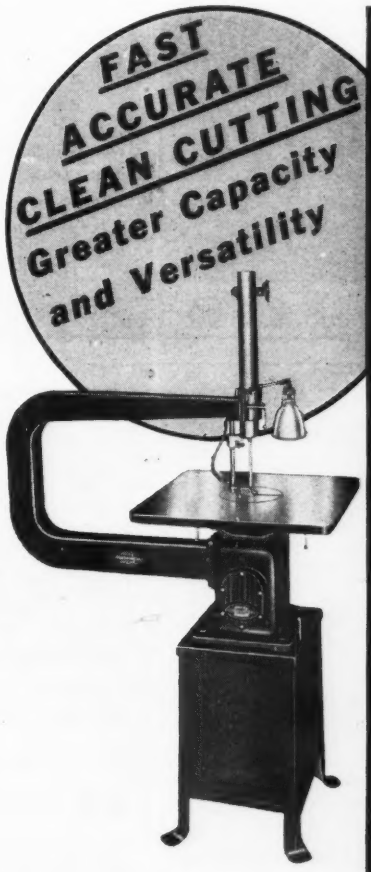


ELLIOTT STEWART has been retired from the faculty of the State Agricultural and Mechanical College, Orangeburg, S.C., after 29 years of service. . . . New head of the industrial arts department at North Carolina State College of Agriculture and Engineering, Raleigh, N.C., is IVAN HOSTETLER, formerly at Collegeboro, Ga., State Teachers College. . . . Newly appointed assistant professor of industrial arts at Chadron, Neb., State Teachers College is FRANK A. THOENDEL. He replaces RAYMOND E. B. FAGAN, who has accepted a position as assistant professor of industrial arts at Fresno, Calif., State College. . . . GUY M. VAN EPPS has been named assistant principal of the East Vocational High School in Cincinnati, Ohio. . . . EDWARD F. RANDALL, former director of the Kenosha, Wisc., Vocational School, died recently at the age of 69. . . . Appointed to a professorship in industrial arts education at Pennsylvania State College was RALPH O. GALLINGTON, formerly associate professor of industrial arts education at Eastern Illinois State College, Charleston, Ill. . . . WALTER H. JESKE has been named head, vocational department, Tappan Intermediate School, Detroit, Mich. He was formerly at the Post Intermediate School in Detroit. . . . HARRY GUNDERSON has been named assistant professor of industrial arts, Eastern Illinois State College, Charleston, Ill. He was formerly at the Laboratory School, Indiana University, Bloomington. . . . New head of the division of fine and practical arts at Georgia Teachers College, Collegeboro, is DONALD F. HACKETT, formerly associate professor of industrial arts at Murray, Ky., State College. . . . The new director of vocational education and industrial arts in the Minneapolis, Minn., schools is JOHN S. ROBOHM. . . . Additions to the faculty of the department of printing at Carnegie Institute of Technology, Pittsburgh, Pa., include FREDERICK AMERY, formerly chief typography lecturer at Heriot-Watt College, Edinburgh, Scotland, who has been named assistant professor of typography, and GEORGE C BROWN, instructor in machine composition. . . . WALTER L. KABIS, former instructor in industrial arts at the Newark, N.J., State Teachers College, has been appointed director of education, occupation, and recreation at the Governor Bacon Health Center, Delaware City, Del. . . . RALPH E. DUSO, formerly in the industrial arts department, Fairfield, Conn., High School, has been named instructor in transportation at the Gorham, Me., State Teachers College. . . . The director of vocational education for Iowa, L. H. WOOD, died suddenly in September. . . . Newly added to the staff of the vocational education department at Michigan State College, East Lansing, is CLAUDE BOSWORTH of Muskegon, Mich. . . . L. D. WALLIS, councilor in vocational education for the Tennessee department of education, has returned to East Tennessee State College, Johnson City, as chairman of the industrial arts department. Also named to the industrial arts department at East Tennessee were BENJAMIN C. TINNELL, instructor in machine shop and auto mechanics; GLENN C. JORDAN, instructor in woodworking and drawing, and RUSSELL L. SHADOAN, instructor in industrial arts and head of the directed teaching program. . . . The former director of the School of Vocational and Adult Education, Watertown, Wisc., FRANK J. WOERDEHOFF, is now teacher trainer in the Wisconsin board of vocational and adult education.



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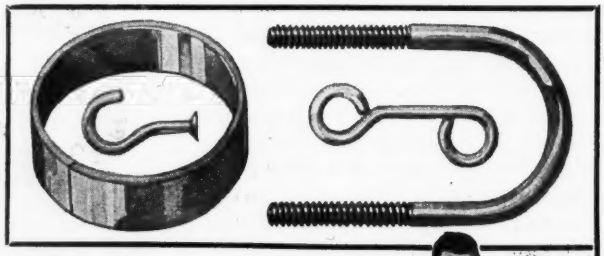

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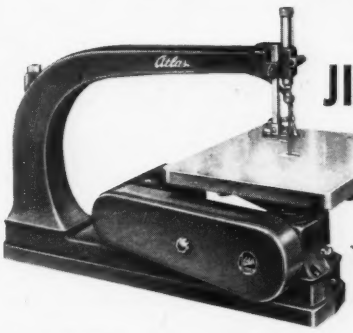

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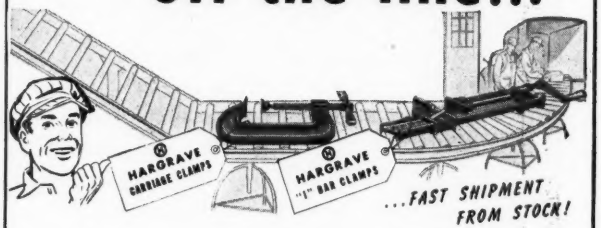

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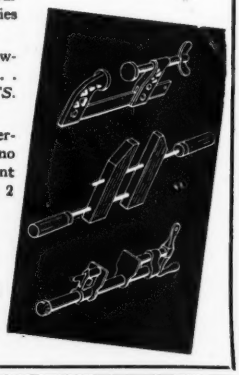

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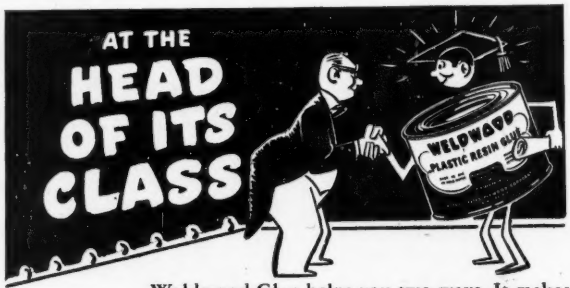

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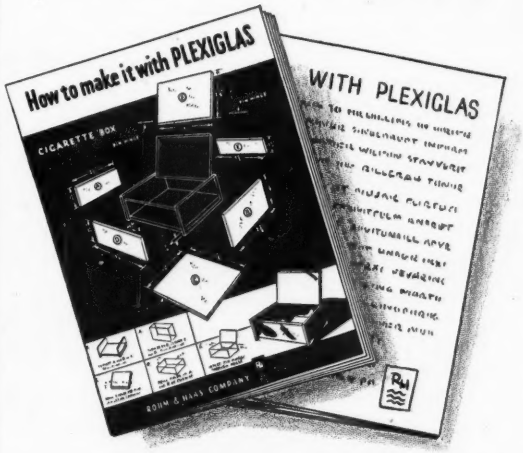

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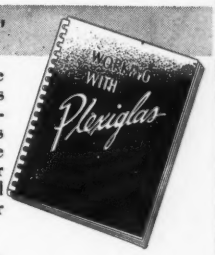

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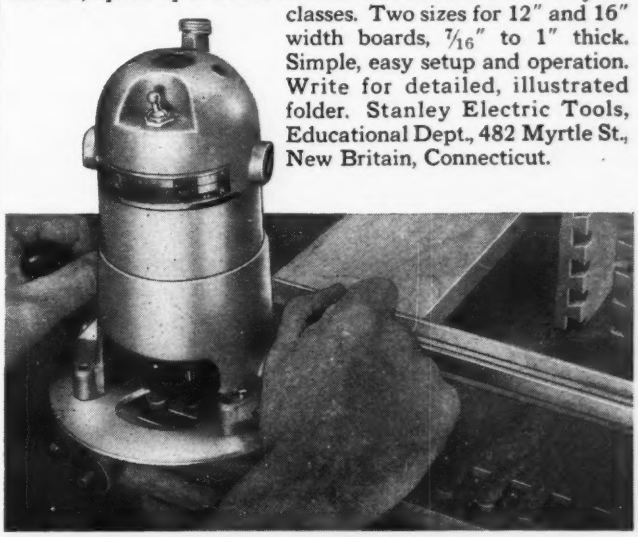

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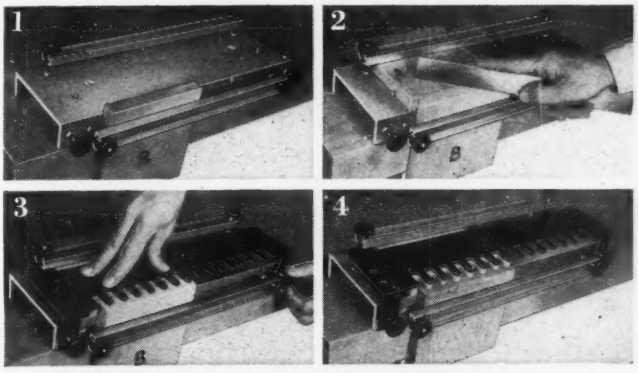

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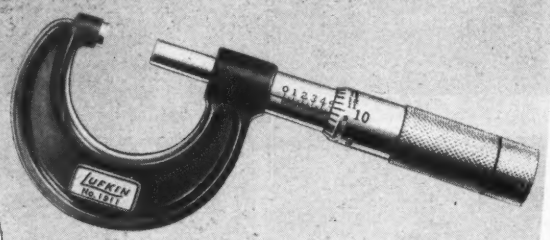

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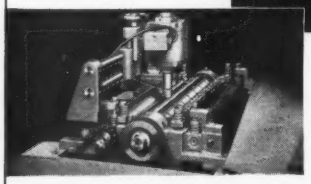
Capacity 20" x 8"



One of a complete line of single and double surface wood planers — all built by planer specialists.

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Stanley Soldering Irons are available with screw tips and plug tips as shown in a range of sizes to handle all soldering jobs. Stanley Tools, Educational Dept., New Britain, Conn.

The booklet "Expert Soldering" gives helpful information on soldering technique. Also facts about Stanley Armor Clad Tips.

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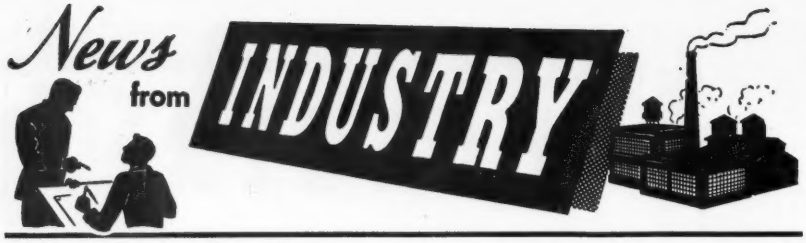


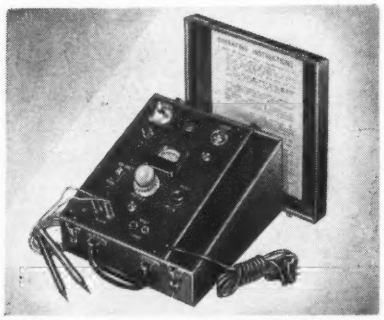
Berkroy Sheetmetal Tools

The Berkroy line is a complete sheetmetal shop—five tools with accessories for sheetmetal fabrication of any kind. Mounted on a bench that is small enough to fit conveniently into a corner of the shop, these tools open the door to exciting, artistic metalwork. Projects that are useful as well as decorative can be made even by those who have had little or no previous experience in the fabrication of sheetmetal.

An excellent booklet, through words and pictures, introduces you to each tool in the Berkroy line and gives basic instructions in the use of each of the tools. Easy-to-make projects are suggested by drawings, and in some cases plans are provided complete with dimensions and instructions—such as one for making a beautiful Colonial lamp. "Know-how" tips are also given.

For a free copy of the booklet, write Berkroy Products, Inc., 2516 N. Ontario St., Burbank, Calif., mentioning SCHOOL SHOP; *or check no. 15 on the coupon.*

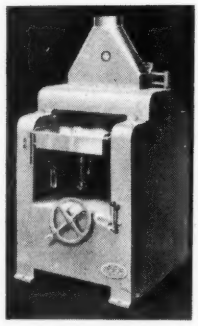
Christy Electronic Kit



The Christy electronic kit is an electrical tester available in kit form. It is designed for testing automatic controls in heating appliances, current consumption of electrical equipment, radio by-pass condensers, etc. It is an ideal school shop project for it serves to give the student valuable electrical assembly experience, as well as an indispensable testing instrument.

The kit is fully described in a new Christy catalog just off the press. Also included are descriptions of heating elements, wiring devices, armature wedges, and many hundreds of other electrical items. For a free copy of the catalog, write to Christy Company, 2835 N. Central Ave., Chicago 34, Ill.; *or check no. 16 on the coupon.*

New Buss Small Wood Planer



The Buss No. 208 is a sturdy, single-head surfacer particularly adaptable to school shop use. It is also a convenient and efficient planer with many features usually found only in larger and much more expensive models. Salient features include: capacity, 20" wide x 8" thick; four driven rolls; top infeed roll and chipbreaker are sectional, permitting feeding of several pieces of various thicknesses simultaneously without danger of "kick-back"; powerful feed mechanism which will handle 8/4" or even thicker stock with ease and dispatch. These features, along with close adjustability, insure smooth, accurate planing, and the built-in knife grinder-jointer attachment provides the means of maintaining such accuracy at all times.

For further information, write the Buss Machine Works, Holland, Michigan; *or check no. 17 on the coupon.*

School Shop Tested Projects

Being conscious of the fact that there has been a great deal of duplication of effort on the part of many of their fellow teachers, each developing his own projects, drawings, instructions, etc., Casting Specialities, Milwaukee, is offering the fruits of many years of teaching experience, in the form of work projects and materials.

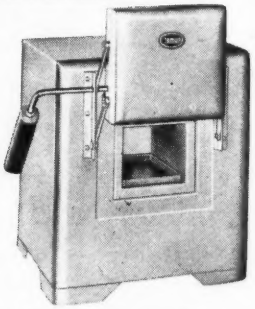
Work projects are engineered so that there are several methods of finishing each part, from the simplest, bypassing some operations, to making use of all the equipment that the most elaborate school shop affords.

An interesting catalog of these projects may be obtained by writing Casting Specialities, 1925 N. 49th St., Milwaukee 8, Wisc.; *or by checking no. 18 on the coupon.*

New Stanley Bench Grinder

Stanley Electric Tools introduces its new No. 266 bench grinder. Powered by a ¼ hp. ballbearing, constant-speed induction motor, this grinder is ideal for light grinding, sharpening tools, buffing, polishing and wirebrush work. Its many features include full ball-bearing action, bearings enclosed against dirt and grit, safety-type wide wheel guards, adjustable tool rests, toggle-type switch. Guards are adjustable to permit grinding at any point on the circumference of the wheel. Speed at 60 cycles is 3450 rpm. Furnished with two wheels, 6" x 2", one coarse, one fine. For further details, request Bulletin 24A from Stanley Electric Tools Div., Stanley Works, New Britain, Conn.; *or obtain by checking no. 19 on the coupon.*

New Line of Temco Electric Furnaces



Thermo Electric Company, Iowa, announces a completely new line of bench-type TEMCO electric furnaces for laboratory uses and heat treating of carbon and high chrome steel parts and tools.

The new TEMCO models are in six sizes ranging in chamber dimensions from 4" wide, 3½" high, and 4½" deep to 8½" x 7½" x 18". The furnaces are fast heating and may be operated up to 1650°F. for continuous use and to 1900°F. for short periods. All models have uplifting counterbalanced doors except the two largest sizes in which the door is divided horizontally into two sections permitting the bottom half to be lowered separately and allowing access to the chamber with a minimum loss of heat. Four sizes are available for operation on either 115 or 230 V, 50/60 cycles. The two larger sizes are for 230 V only. Specifications and prices may be had by writing to Thermo Electric Manufacturing Co., 490 W. Locust St., Dubuque, Iowa; *or by checking no. 20 on the coupon.*

New Literature

Silver for the Craftsman was written in response to many requests for help in ordering and working with sterling silver. It pictures the gages of sheet and wire most commonly used and in addition gives information on soldering, the answers to technical questions which frequently arise when working with silver, and suggestions for tools and equipment. Available, without charge, from Craft Service Department, Handy & Harman, 82 Fulton St., New York 7, N.Y.; *or by checking no. 21 on the coupon.*

Fay & Egan Woodworking Machinery. Catalog giving full specifications, sizes, etc. of J. A. Fay & Egan Company's complete line together with information on the use and adaptation of the various machines. Write J. A. Fay & Egan Co., 2021 Eastern Ave., Cincinnati 2, Ohio; *or check no. 22 on the coupon.*

Electric Drills. Precision Equipment Co. has just published an attractive two-color circular featuring the new Fairchild ¼" drill and the Hi-Power ½" model. For a copy of the circular, write Precision Equipment Co., 2658 N. Long Ave., Chicago 39, Ill.; *or check no. 23 on the coupon.*

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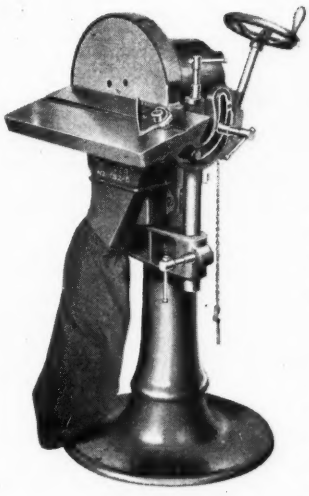

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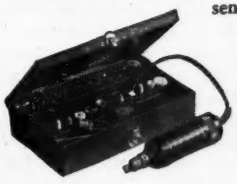

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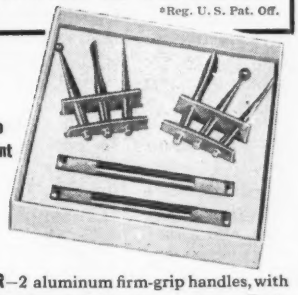

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Instructional RESOURCES

Education for an Industrial Age. Kahler and Hamburger. Ithaca, N. Y.: Cornell University Press, 1948. Pp. xv + 334. $3.75.

Every so often it is a healthy experience for a field of effort like vocational education to be critically and constructively scrutinized by outsiders, particularly if the outsiders are scholarly and well informed. This volume is just such an experience. Two trained social scientists have made a four-year survey of industrial education under the sponsorship of the Institute of World Affairs. Aided by faculty members of the New School for Social Research, the authors present a summary of industrial education and then make a critical appraisal based on economic and social factors oftentimes overlooked by people in the field. The result is a document that fills in numerous gaps in the knowledge of many persons in the field regarding occupational trends, suitable curricular offerings, correlation with general education, the teaching of related information, college-entrance requirements, and similar problems. The recommendations of the authors for a comprehensive vocational program deserve serious consideration.

One apparent shortcoming in the study is overemphasis on the structure and problems of vocational schools in the larger metropolitan areas. Greater attention could well have been given to smaller communities. Considerable space is given to a historical treatment of the development of vocational education, yet C. A. Bennett's scholarly contribution to the field was not cited.

Alfred Kahler is Professor of Economics, New School for Social Research. Ernest Hamburger is Professor of Law and Political Science, *Ecole Libre des Hautes Etudes.*

General Repair Tools for Automobile Mechanics. Albany, N. Y.: Delmar Publishers, Inc., 1946. Pp. vii + 181. $2.00 paper; $3.00 cloth.

Brake Work for Automobile Mechanics. Dell, Howard, and Stevenson. Albany, N. Y.: Delmar Publishers, Inc., 1948. Pp. ix + 194. $2.75 paper; $3.50 cloth.

Manuals "A" and "C" in the Delmar series for training in automotive repair occupations. The former contains material designed to give beginners in auto mechanics a basic knowledge of the fundamentals of construction, repair, and operation and to enable them to follow other instructional material. The latter is a detailed study of brakes, their maintenance and repair, and the tools and parts to be used in brake work. The books are organized with a section devoted to related information followed by a section on fundamental processes for each topic. There are numerous diagrams in both manuals and the type is large enough to facilitate quick reference and easy reading.

Truman G. Bell, Frank E. Howard, and George E. Stevenson are all instructors in automobile mechanics at Burgard Vocational High School, Buffalo, N. Y.

Aircraft Engines. Drake. New York: The Macmillan Co., 1948. Pp. xi + 348. $5.90.

Another in the Drake Aircraft Mechanic Series, this book "explains the theory, construction, installation, and operation of all types and parts of modern aircraft engines and of propellers." There are many large photographs and drawings of basic aircraft engine principles as well as of the newer developments in jet propulsion, gas turbines, and other improvements in the field. A glossary of terms is included.

Col. Rollen H. Drake, a research engineer, is a pilot and ground-school instructor. He was formerly an instructor in vocational and aviation subjects, Los Angeles, Calif., city schools.

Broadcast Operators Handbook. Ennes. New York: John F. Rider, Publisher, Inc., 1947. Pp. xii. + 265. $3.30.

This book was written to fill the gap which the author feels exists in the literature of radio in regard to operation of broadcasting equipment. Parts I through IV take up operating practice in control rooms, master control, remote controls, and the transmitter. Parts V and VI discuss technical data for operators and technicians. There is a short book bibliography and an appendix which contains many diagrams and graphs on broadcast details.

Harold E. Ennes is staff engineer, Indianapolis Broadcasting, Inc.

Home Guide to Repair, Upkeep, and Remodeling. Crouse. New York: McGraw-Hill Book Co., Inc., 1947. Pp. x + 358. $3.00.

Written for use both as a textbook in home mechanics courses and as a reference for the home owner, this book covers all of the principal problems of home maintenance. The language is nontechnical and a number of illustrations are used to clarify the text. New developments such as radiant heating, prefabrication, and new types of construction materials are covered.

Vocational Planning. Endicott. Scranton, Pa.: International Textbook Co., 1948. Pp. ix + 147. $1.60.

A reissue of *How to Find and Succeed in Your Post-War Job,* this text has been adapted for classroom use. The plan is to progress through each step in vocational orientation: choosing an occupation, preparing for it, entering it, and progressing in it. There are charts and rating blanks for selfanalysis and occupational study. Questions for classroom study are included with each chapter.

Frank S. Endicott is director of placement and assistant professor of education, Northwestern University, Evanston, Illinois.

Mathematics for Plumbers and Pipefitters is a workbook issued by the Vocational Instructional Materials Laboratory of the University of Michigan, Ann Arbor. It was prepared by A. Fred Toelle, itinerant apprentice instructor in the office of vocational education, Michigan State Department of Public Instruction. The object of the workbook is to provide related instructional material for the plumbing and pipefitting trades. The material presented assumes a knowledge of basic mathematics. Each unit is followed by an assignment sheet. References to mathematics textbooks are included in the assignments. The problems cannot be solved unless these references or similar ones are consulted. Available at 75c a copy.

The Inside Story of Stethoscope Servicing is a pamphlet describing a new method of trouble shooting for the radio repairman. Utilizing a new test instrument called the Stethoscope, the repairman can quickly diagnose radio faults. Issued by Supreme Publications for the Feiler Engineering Co., 945 George St., Chicago 14, Ill.

A Partial List of 16mm Film Libraries is a directory recently issued by the Office of Education, Federal Security Agency. It lists nearly 600 sources of 16mm films which are available to teachers and school administrators. The material contained in this 28-page directory was gathered from inquiries sent to film libraries, visual-education dealers, and other distributors of 16mm films. May be obtained at no charge from the Visual Aids Section of the Office of Education, Federal Security Agency, Washington 25, D. C.

The 1948-49 Film Catalog is the ninth edition of the General Motors Corporation's list of offerings of 16mm films. A short description of each film available from GM public relations offices is included. Instructions for requesting loans of the films are given, as well as order blanks. Copies may be procured by writing to General Motors at the General Motors Building, Detroit, Michigan; 1775 Broadway, New York City, or 1526 Financial Center Building, 405 Montgomery Street, San Francisco, Calif.

Compressed Air in Action is a 35mm film strip which illustrates modern basic types of air-compressing equipment and air-operated tools and rock drills and portrays compressed air power in operation in many typical present-day installations. An informational pamphlet accompanies the film strip, giving lecture notes for the presentation. It is also available in the form of 2" x 2" slides. Send for information to the Compressed Air and Gas Institute, Room 1404, Terminal Tower Bldg., Cleveland 13, Ohio.

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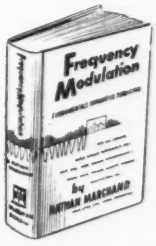

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Formerly Lecturer, Electrical Engineering, Columbia University

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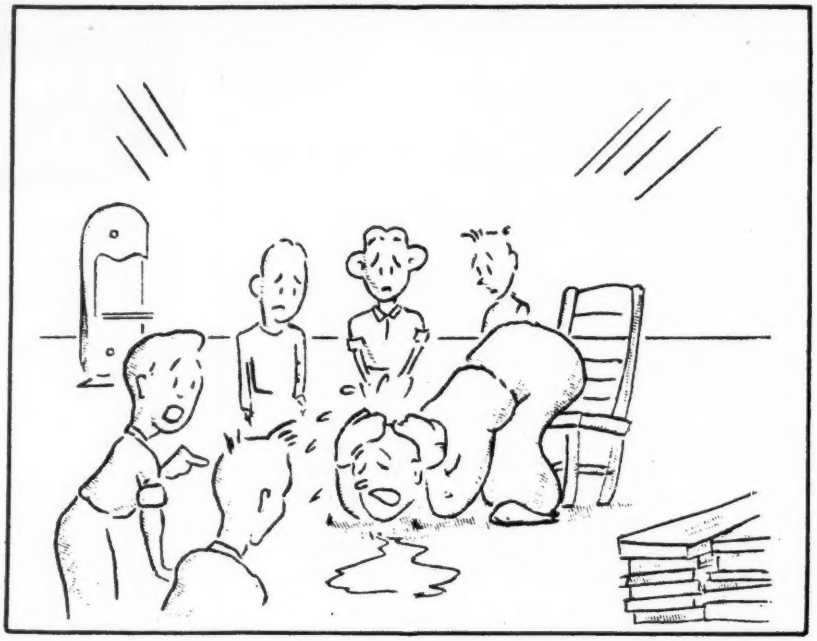
By Marcus Fitzgerald

Defensive Pete



"I don't know. He just keeps mumbling something about silk purses and sows' ears."

DEFENSIVE Pete looks over his incoming classes at the beginning of the term and remarks: "Look—all the low I.Q. kids." Defensive Pete drops his standards two notches at the outset as he agrees with himself that he gets only the cast-offs.

The above is the first in a long series of defensive stands which Pete takes. He feels that his opinions won't count for much at a faculty meeting, that his equipment is inadequate, that materials are not available. In general, Defensive Pete feels that there is no use to try because it can't be done.

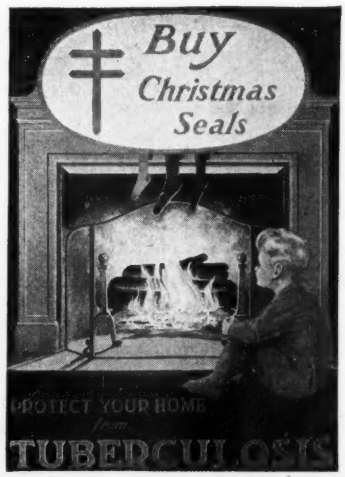
The defensive attitude of Pete and his numerous counterparts emanates from a lack of understanding of pupil growth and development, a restricted concept of his subject area, and a classical notion of who should be educated.

Filmstrips . . . *from page 7*

A complete visual-aids library is likely to contain motion pictures, wall charts, etc. To aid in distinguishing different varieties of aids, the classification system should include letter classifications—for example, the strip-film numbers could be prefixed with *S*, the motion picture numbers with *M*, and so on.

The progressive shop teacher now sees the importance of visual aids to teaching and learning. He must further realize the value of keeping these aids in good condition. Filmstrips and other aids are tools. Use them as such and handle them as carefully as the most valuable tool in your shop.

The rate of comprehension of students can be stepped up appreciably through the use of visual aids as shown by the armed forces training program.



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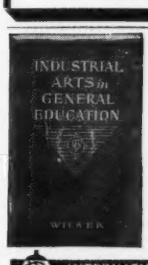

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Washington . . . *from page 32*

supplementary instruction, federal vocational-education officials admit.

The trouble, of course, has been, lack of funds, lack of equipment, lack of personnel, and lack of texts.

But in the final analysis it is up to the local communities to show a greater interest in providing for this phase of education to trade and industrial trainees. And the American Federation of Labor hinted that in its report to the coming convention it will call on its union members to get after local school officials to do more in this field.

For industry spoke Earl Bunting, Executive Secretary of the National Association of Manufacturers. In an interview Mr. Bunting said:

"What industrialists appreciate most in the work of the public vocational schools is the broad general education that many of them are providing their students. Any plant can train a youth to operate a lathe or to do a job in a mass-production process. Only the school can equip that youth with the qualities and attitudes that make a good citizen, a good worker, and a thoughtful human being. Such things as a sense of responsibility, perseverance, courtesy, neatness, and safety habits—all are considered by industrialists of the highest importance in hiring an employee. And these can best be developed by the public schools."

Relative Pay Decline.—Does it pay to be a skilled worker? Official U.S. figures throw some light on the question. In 1907, top skilled jobs paid, on the average, more than double the wages of bottom-rung unskilled jobs. After World War I they paid only 75 percent more. Today the pay spread is down to a little over 50 percent.

What are the reasons for this change? Over the years, more and better education and training resulted in a steadily rising number of people with some special or partial skill. At the same time, technology reduced the number of jobs requiring the touch of the master craftsman.

To put it another way, the pool of unskilled labor decreased and the shortage of these workers called for better pay. As the supply of skilled labor increased, their wages began to drop. More recently, another force began working in the direction of reducing the pay spread between the skilled and unskilled. Union demands for wage increases during the last 10 years have been in terms of so many cents per hour for every worker regardless of skill.

AVA to Meet in Milwaukee

MEETING in Milwaukee, Wisconsin, November 30 to December 4, the 42nd annual convention of the American Vocational Association promises to be an outstanding series of sessions.

Wisconsin educators are bending every effort to make this convention particularly eventful as this is the state's centennial year. During the last 37 years of this century of statehood, Wisconsin's unique program of vocational and adult education was established and developed. A special feature of the convention will be an exhibition sponsored by all vocational and adult schools of the state.

The Industrial-Arts Section, under the chairmanship of Gordon O. Wilber, reports that an excellent program has been arranged with five sectional meetings. The topics at these sessions will be "Improving Industrial - Arts Education," "The Industrial-Arts Curriculum," "The National Picture," "Safety and Organization," and "Shop Demonstrations and Methods."

Plans for the Trade and Industrial Education Section, of which Russell K. Britton is chairman, call for cooperation with the National Association of Teacher-Trainers in Industrial Education, the Association of State Supervisors of Trade and Industrial Education, and the National Council of Local Administrators of Vocational Education in the development of program material. The theme for the section meetings is "Looking Ahead with Vocational Education."

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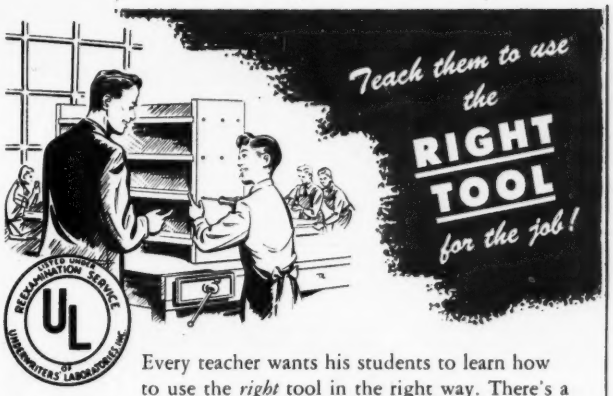

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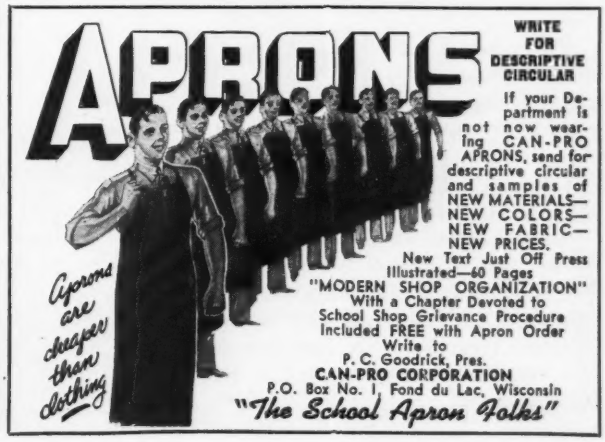

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THE National Commission of Life-Adjustment Education is a long way from making its program felt in the average high school of the nation.

The Commission spent the past year in rethinking its own philosophy and in putting down on paper some of the things it believes.

But machinery for carrying out the Commission's ideas, state by state and school by school, is still lacking.

Commission to Work With States. —At its last meeting in October the Commission considered a "testament of faith" on life-adjustment education. The Commission said that many high schools are still dominated by a traditional curriculum which emphasizes verbal and abstract learning for the few who go to college; or specialized courses useful for the few planning to enter skilled vocations. As a result, the "remaining 60 percent," unable to benefit from either of these types of instruction, are left to flounder or to leave school as soon as the law permits.

The answer, the Commission said in its declaration of policy, is to organize courses for high schools which will deal with learning experiences grouped around recurring problems of living faced by all people. Such courses would emphasize direct experience. They would be planned with the help of students, parents, teachers, industrial, and labor groups. They would deal with home and family life, use of leisure, work experience, citizenship, consumer education, and health and safety.

Having restated its philosophy the Commission still faced the old, troublesome question: How to needle high-school principals and their superior officers into accepting this philosophy and putting it to work.

Last year, the Commission thought that it would have enough money to work directly with cooperating schools —that is, schools which could be held up as shining examples of providing good life-adjustment education and from which other schools could pick the experiences they like. This procedure is now out of the window because no foundation has yet been found which would grant the Commission money for this purpose. The Commission gets along on whatever help the U.S. Office of Education can give it.

It appears, therefore, that the Commission will try to encourage each state to appoint a state steering committee. This body, in turn, would work with schools in its own state, both in pointing out good examples of life-adjustment education in selected schools and in encouraging the traditional high school to mend its ways. The state steering committee would be expected to pay its own expenses.

What, then, would be left for the National Commission to do?

It would become a "clearing house" of information concerning the experiences of the schools taking part in life-adjustment education projects.

Within the next several weeks some clear-cut decisions should come out as to the prospects for the future of the Commission and its work. Will the states set up steering committees? (So far only about a dozen have taken concrete steps to do so.) Are there enough brave secondary-school officials and high-school principals willing to adopt life-adjustment education as their guiding light? (So far it is possible to point only to a few high schools bold enough to do this).

If, as, and when life-adjustment education gets under way, every state and every school will have freedom to adopt the life-adjustment education idea to its local situation. In fact, the Commission expects that years of experimentation with life-adjustment education will have to take place before a final program jells.

Labor and Industry Speak. — Both labor and industry groups had something to say about vocational education to your reporter last month.

The American Federation of Labor said it will report to its next annual convention in Cincinnati (to be held in November) the results of its study on vocational education called for by a resolution passed last year. This resolution asked for more supplementary instruction to vocational education in the public schools. The AFL feels this to be a weak link in vocational education.

And supplementary education, of course, means anything over and above the specific skill required in a trade—say, study of metals for machine-shop workers, use of the steel square for the carpenter, blueprint reading, or a knowledge of case hardening for the metal worker.

The public vocational schools have not been adequate in providing such

(*Continued on page* 30)

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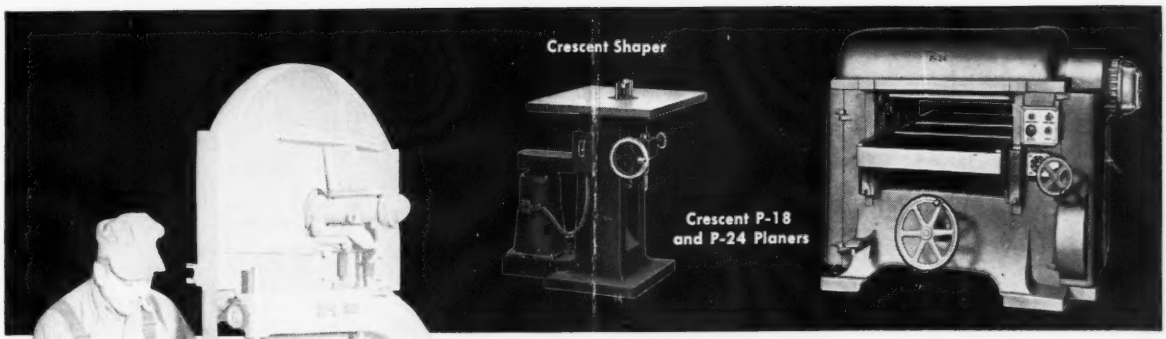

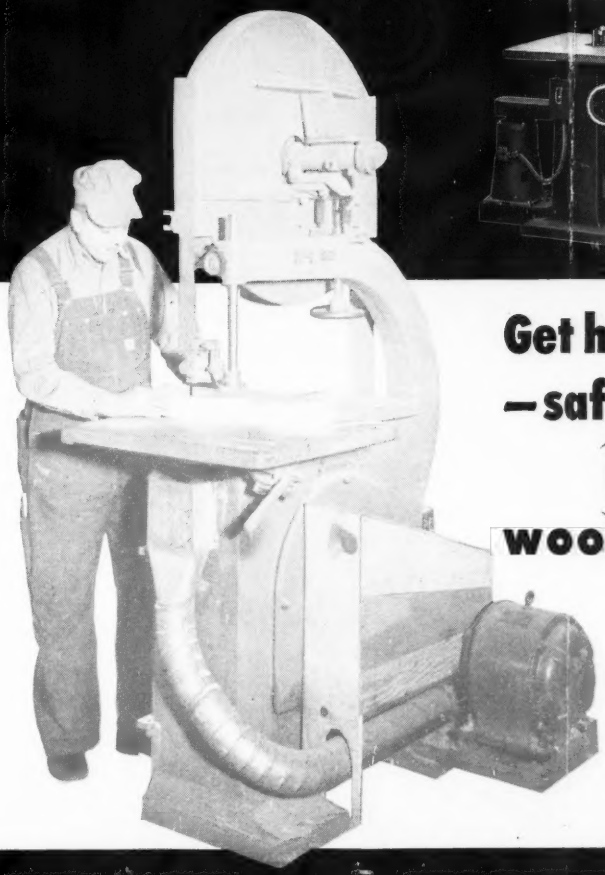

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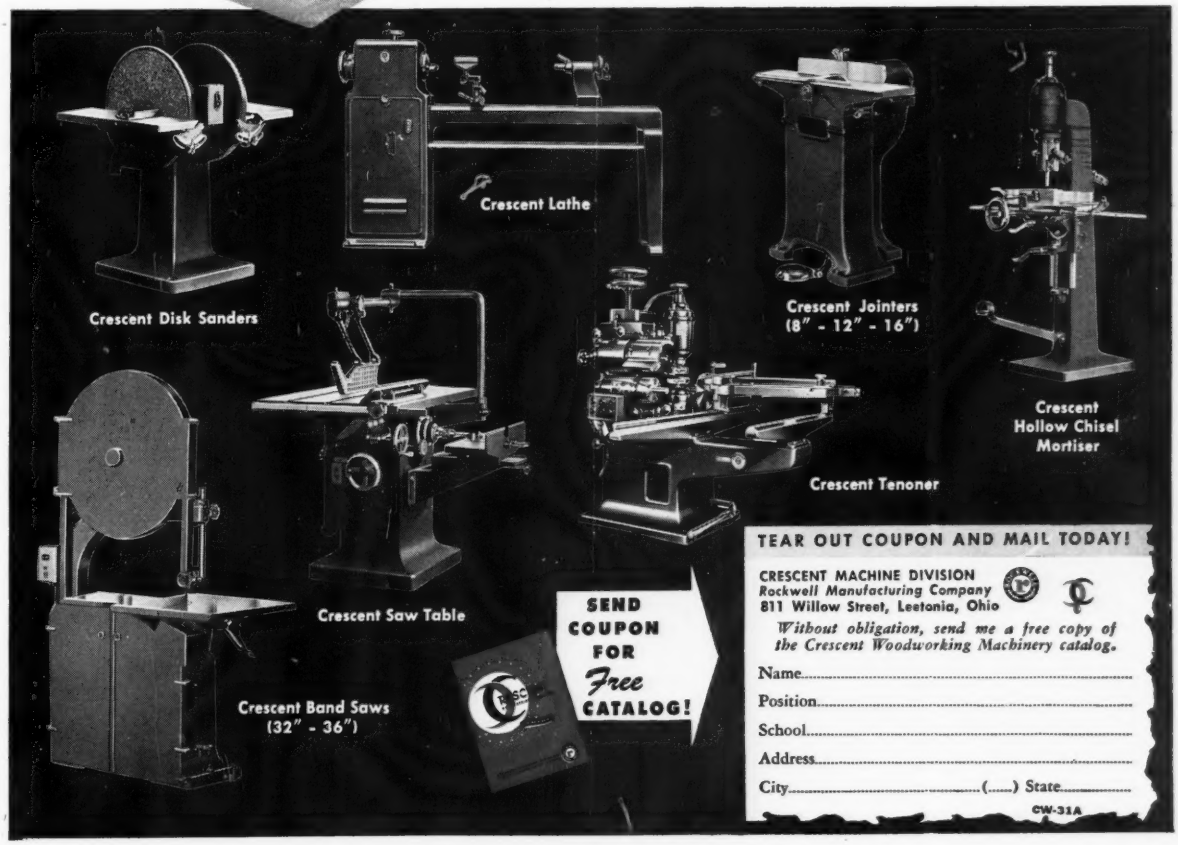

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